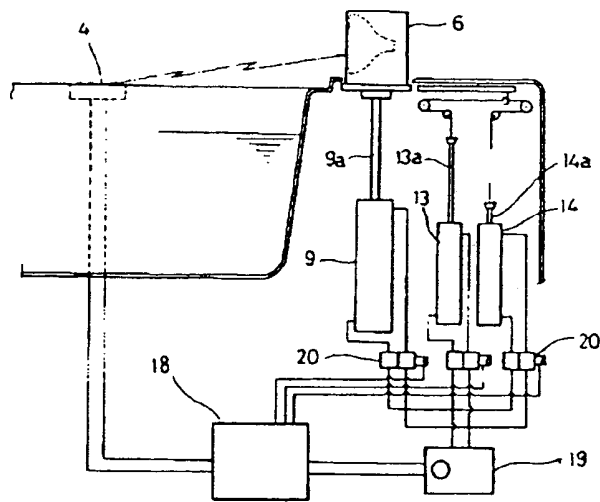


【図3】



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Japanese Published Unexamined (Kokai) Patent Publication No. H4-285511; Publication Date: October 9, 1992; Application No. H3-74489; Application Date: March 14, 1991; Int. Cl.⁵: A47K 3/00; Inventor(s): Hiromasa Nomura et al.; Applicant: Toto Ltd.; Japanese Title: Shuunou-shiki Terebi Tsuki Yokusou (Bathtub with a Storable Television Attached)

[Title of Invention]

Bathtub with a Storable Television Attached

[Abstract]

[Constitution]

This is characterized in that a television image receiver 6 is attached to a bathtub body 2; television image receiver 6 is made storable in bathtub body 2.

[Effect]

Because television image receiver 6 is attached to bathtub body 2 and because television image receiver 6 is made storable in bathtub body 2, the television can be closely watched by projecting television image receiver 6 from bathtub body 2. Additionally, when television image receiver 6 is stored in bathtub body 2, projected components of the television image receiver are hidden so as to save the space. Bathtub body 2 is easily cleaned up.

[Claim]

[Claim 1]

A bathtub with a storable television attached, characterized in that a television image receiver is attached to the bathtub body so as to be projected and retracted as needed.

[Detailed Description of the Invention]

[0001]

[Field of Industrial Application]

This invention pertains to improved bathtubs.

[0002]

[Prior Art]

Bathtubs, washing spaces, mixing faucets for hot and cold water and shower devices are arranged in the bathrooms. Along with a diversity of our lifestyles in the recent years, there is a demand for watching televisions (henceforth referred to as TVs) during a bath.

[0003]

[Problem of Prior Art to Be Addressed]

However, it is inconvenient to place regular television image receivers (henceforth referred to as TV image receivers) in the bathrooms. The bathrooms and bathtubs cannot be easily cleaned.

[0004]

[Measures to Solve the Problem]

The present invention is characterized in that a TV image receiver is attached to a bathtub body; the TV image receiver is made storable in the bathtub body.

[0005]

[Effect]

By projecting the TV image receiver from the bathtub body, the TV can be closely seen. If the TV image receiver is stored in the bathtub body, projected components of the TV image receiver are hidden from the bathtub. It prevents any inconvenience.

[0006]

[Embodiment]

The embodiments of the invention are described hereinbelow with reference to the attached drawings. The drawings are seen in the direction of the reference numbers. Fig. 1 is a perspective view illustrating a bathtub with a storable TV attached by the present invention. A bathtub 1 is characterized in that a remote controller 4 is attached to a rim 3 of a bathtub body 2 so as to be attachable and detachable as needed, which is integrally injection-molded using reinforce plastic FRP, and that a TV image receiver 6 is provided to an apron section 5 formed one step higher than rim 3.

[0007]

Fig.2 is a cross-sectional view illustrating the main components of Fig.2. TV image receiver 6 ascends and descends a rectangular opening 7 of apron section 5 and is supported with a hydraulic cylinder 9 via a TV table plate 8.

[0008]

A sliding plate 10 for blocking opening 7 is attached to the back surface of apron section 5. A forwarding cylinder 13 and a backing cylinder 14 forcibly move sliding plate 10 via ropes 11 and 12. In the drawing, reference number 15 refers to guide rails extended in the vertical direction. Reference number 16 refers to guide rollers.

[0009]

Fig.3 illustrates an arrangement of devices of a bathtub with a storable TV attached by the present invention. Remote controller 4 turns on and off TV image receiver 6, a switching of the channel and an adjusting of the sound volume, by radiating infrared beams to TV image receiver 6. Furthermore, remote controller 4 is electrically connected to another controller 18. Controller 18 controls a hydraulic unit 19 and an electromagnetic switching valve 20 and separately activates forwarding and backing cylinders 13 and 14.

[0010]

The effect of the bathtub with the storable TV attached as constituted as above is described next. When remote controller 4 is operated, for example, backing cylinder 14 of Fig.2 backs sliding plate 10 from the left to the right in the drawing by lowering a piston rod 14a so as to open opening 7.

[0011]

After this, a piston rod 9a of hydraulic cylinder 9 forwards to ascend TV image receiver 6. TV image receiver 6 projects at the upper part of apron section 5 after passing opening 7 (Fig.1).

[0012]

As a result, the person at his/her bath can freely enjoy watching the TV.

[0013]

When TV image receiver 6 is not wanted, TV image receiver 6 is descended under apron section 5 in the reverse steps as those as described above (the location of Fig.2). By operating forwarding cylinder 13, sliding plate 10 is forwarded (from the right to the left) so as to block opening 7 of apron section 5.

[0014]

When TV image receiver 6 is stored at the lower part of apron section 5, more specifically, inside bathtub body 2, projected components are hidden. Thus, the bathroom and the bathtub are easily cleaned.

[0015]

Fig.4 illustrates another embodiment of the bathtub with the storable TV attached by the invention. TV image receiver 6 is stored in a square box 21. Square box 21 whose

front plate 22 is made of a glass or acrylic plate. An air hole 24 is provided in a back plate 23.

[0016]

Fig.4 illustrates an ascending limit of square box 21 while it vertically moves by a hydraulic cylinder 25. A rubber seal 26 is characteristically engaged with the lower part of square box 21 by a sealing means. At a descending limit, the ascending and descending strokes are adjusted so that the upper surface of a top plate 27 of square box 21 matches the upper surface of apron section 5.

[0017]

According to the embodiment of Fig.4, the size of the plane of apron section 5 is reduced. Sliding plate 10 of Fig.2 and cylinders 13 and 14 are not required.

[0018]

[Advantageous Result of the Invention]

As mentioned above, as the TV image receiver is attached to the bathtub body of the invention and made storable to the bathtub body, the TV is closely watched by projecting the TV image receiver from the bathtub body. When the TV image receiver is stored in the bathtub body, projected articles of the TV image receiver are hidden from the bathtub body so as to prevent any inconvenience.

[Brief Description of the Drawings]

[Fig.1]

Fig.1 is a perspective view illustrating a bathtub with a storable TV attached by the invention.

[Fig.2]

Fig.2 is a cross-sectional view illustrating the main components of Fig.1.

[Fig.3]

Fig.3 illustrates an arrangement of devices of the bathtub with the storable TV attached by the invention.

[Fig.4]

Fig.4 illustrates another embodiment of the bathtub with the storable TV attached by the invention.

[Description of the Reference Numbers]

1...Bathtub

2...Bathtub body

6...TV image receiver

Translations Branch
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Chisato Morohashi